

Laucks

Testing Laboratories, Inc.

940 South Harney St., Seattle, Washington 98108 (206)767-5060



Certificate

Chemistry, Microbiology, and Technical Services

CLIENT: Alaskan Copper Works
PO Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO: 97536

DATE: August 12, 1986

PO# A9138

REPORT ON: SOLID MATERIALS

SAMPLE

IDENTIFICATION: Submitted 7/2/86 and identified as shown below:

- 1) Code "green" ID A9138 - Green
- 2) Code "yellow" ID A9138 - Yellow

TESTS PERFORMED AND RESULTS:

Samples were submitted with a request to identify and characterize the materials.
Results of analyses were as follows:

SAMPLE 1

The material was a white powdery solid that was partially soluble in water and mostly soluble in acid.

pH 1/10 slurry -----	10.0
Ignition residue -----	74.0%
Carbonates -----	Present as a major constituent
Organic matter -----	None detected
Sulfates -----	None detected
Hydrochloric acid insoluble matter -----	9.2%
Total Sodium -----	27.0%
Sodium as sodium carbonate -----	62.0%



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Semi-Quantitative Spectrographic Analysis

	<u>%</u>
Sodium	35.
Silica	8.8
Aluminum	0.076
Magnesium	0.024
Copper	0.021
Iron	0.022
Chromium	0.013
Calcium	0.018
Nickel	0.0090
Titanium	0.016
Manganese	0.011
Other elements	nil

Comments:

This material is a compound that contains sodium carbonate as its major constituent and silicates as its minor constituent.

The intended use for this material was not determined, however, its composition suggests possible usage as a cleaning compound.

SAMPLE 2

The material was a white lumpy water soluble solid containing a significant amount of moisture.



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pH on 1/10 deionized water slurry -----	13.8
Carbonates -----	None detected
Sulfates -----	None detected
Moisture -----	30.6%
Ignition characteristics -----	Similar to sodium or potassium hydroxide
Total alkalinity as sodium hydroxide, dry basis -----	91.%
Total sodium as sodium hydroxide, dry basis -----	85%

Comments:

The material contains sodium hydroxide as its major constituent along with 30.6% moisture.

Numerous industrial uses for sodium hydroxide are found in the metal industry.

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

J.M. Owens

JMO:dr



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